BY CHRIS FREDERICK WILLIS

Storyboards: Ready? Set? NO!

Four Giant Steps to Take Before Developing e-Learning Storyboards

The best opportunity to ensure on-time e-Learning development within budget and scope comes after the storyboards have been approved but before actual interactive development begins. Here are four steps that will get your team off to a good start.

It's January, and you lead the online learning interactive development team for a large corporation. You're given word that a new web-based course will be heading your way with delivery to coincide with a June 1 enterprise project rollout. You estimate you'll need about 12 weeks to develop and test the course; as of right now you have 20 weeks and your team is ready to roll.

Unfortunately, the course approval and budget details were held up awaiting management approval. By the time the Subject Matter Expert (SME) became available, she and Marketing had trouble agreeing on the proper approach for the course, with Marketing insisting that aspects of a new corporate identity program be interwoven into the material. The Instructional Designer is doing his best to blend both approaches into one effective and cohesive course that meets all student performance — as well as corporate — objectives. As for you, so far you've managed to get your interface design and prototype approved but your team is stalled, waiting for the storyboards so that they can get to work.

The upshot: it's now April, and you have about 8 weeks left to complete 12 full weeks of development and testing. As soon as the approved storyboards are finally in your hot little hands, you do a quick scan to make sure that everything appears in order, then rush them to your development team. In haste, you divide the storyboards by section and assign them to your three eager developers. Each developer excitedly opens to the first page of their assigned section and begins to head back to their workstation to pull the approved interface framework from the archive and eagerly begin the exciting process of bringing a new course to life online.

What's wrong with this picture?

If you are a courseware developer, you have no doubt experienced some variation on this theme. With interactive development falling at the end of the course development cycle, there are numerous opportunities to veer out of scope, off schedule, and over budget long before the approved storyboards make their way to you. Pressure is always high to cut development hours and speed delivery.

But experienced interactive development professionals know that the best opportunity to find shortcuts and ensure smooth development and delivery takes place after the storyboards have been approved but before actual interactive development begins. A variation of the old carpentry adage, "measure twice; cut once," applies equally well to e-Learning development.

Here are four steps you can take to ensure that your storyboards are in order and development will get off to a good start from square one. All of these steps apply even if your development team is very small. Figure 1 provides a convenient checklist for these details.

1. Walk before you run: storyboard walk-thru

Before striking a single keystroke at a development workstation, hold a complete storyboard walk-thru session including all members of the course design and development team plus key stakeholders. Some developers even bring in a representative sample of target learners to participate and provide feedback. This may seem like a costly exercise, but it's perhaps the single most valuable step you can take to facilitate successful courseware development and can prevent thousands of dollars of rework to course code and graphics.

The storyboard walk-thru also establishes a clear handoff from the instructional design and content team to the interactive courseware development team. It may be the only chance to make sure that everyone shares the same vision and objectives for the completed course.

In a typical walk-thru session, one reader is assigned for each voice in the course. It's not necessary to use professional voice talent; the idea is to get a feel

for the flow and presentation of the text. After the screen text has been read, a facilitator describes any graphics or screen action indicated, which may be anything from an elaborate interactive exercise to "Click Next."

As well as the content team's chance to check that learning objectives are being met effectively and to make last-minute storyboard edits, this session is also the perfect opportunity for developers to make sure they understand each screen and suggest edits or enhancements to course graphics or interactivity.

Pay attention to the course flow; are there too few interactions? Too many of the same type of interaction? Are the suggested graphics and interactions in line with the development budget and deadline? This is the perfect time for you, the tools and technology expert, to suggest that a series of stepped still photos might be just as effective, and a lot less costly, than the 3-D rotating view of the equipment suggested in the storyboards — plus save more time and budget for the interactive game at the end of each module.

2. Check, double-check, then check again

Of course the storyboards were proofread before they were sent to development... weren't they? Now's the time to make sure. A redline through a word on the storyboard is the easiest and least costly edit you can make from this point on in the development cycle.

It goes without saying to have someone check for grammatical edits or spelling errors. Also check to make sure that topic headings are in place and accurate, and that headings within topics follow a consistent hierarchy, clearly indicated for the development team. Make sure that page numbers are listed and that they, too, are consistent and accurate.

Now take another look, from a developer's perspective. Make sure branching, bookmarking, and navigation instructions are indicated clearly throughout the course. Are subsequent pages or modules locked out until completion of prerequisite material? Also, check to make sure you understand what happens when the learner completes a quiz, and how scores will be reported back to the learner. Will a low score return the learner to review course topics? If so, which ones? How many times are learners able to repeat the quiz until they achieve a passing score?

Last, take a look at the audio script. Make sure that you have what you'll need to schedule audio talent and studio time, if required. If more than one voice is used, make sure that it is clearly indicated who speaks which part. Prescriptive feedback, quizzes, and navigation tutorials are sometimes overlooked; make sure that you have complete text for all these ready for production.

There's time now, at the beginning of the development cycle, to run down the answers to questions like these while there's still plenty of other work to be done. Running across these issues later on during development could unnecessarily stall production.

3. Take inventory: create an asset list

Some instructional design or electronic storyboard programs create an asset list automatically, and you may be the fortunate recipient of a prepared asset list along with your storyboards. (See sidebar, "Storyboard Software") If not, you'll have to do a little counting. Fortunately, by now you're intimately familiar with your storyboards and will find this step an easy one.

"Assets" refer to the external media you will import into or link to within your course. Types of assets include:

- Graphics or illustrations
- Animations or interactions
- Photos

Storyboard Readiness Checklist

Project _____ Date _____

Item	Initials	Notes
Student Performance Objectives (SPOs)		
SPOs clearly listed using active voice		
All SPOs measured		
Navigation		
Menu/Navigation consistent throughout		
Button actions indicated		
Button accessibility indicated (available/grayed out)		
Navigation/branching clearly indicated on each page		
Page / section accessibility (linear or open)		
Bookmarking instructions for developers		
Text & Style Guidelines		
Content complete (no review notes, TBS, etc.)		
Clear instructions to prompt learner actions		
Spell check completed		
Content proofread		
Style & usage guidelines followed, including capitalization		
Heading hierarchy consistent		
Type styles identified (title, header, body, bullets, etc.)		
Position of text on screen (fixed or developer choice)		
Narration		
Audio script present, including instructions & feedback		
Narrator voices indicated (male, female, etc.)		
Interaction		
Adequate number of interactions (i.e., 1 every 3 screens)		
Adequate description of interactions for developers		
Prescriptive feedback for all quizzes, interactions		
Rollovers described, including size, position, framework		
Rollover text present		
Number of tries user gets on exercises		
Developer instructions for scoring & tracking		
Graphics		
Detailed description of all required illustrations		
File names / locations of graphic assets (photos, etc.)		
Logo usage, colors, and other branding appropriate		
Other		

FIGURE 1 *This checklist will guide you to a good start on your development.*

- Audio files
- Video clips

Using your favorite spreadsheet program, create a column to list each page number, and another one for each type of asset called for in your course. For those which will need to be developed "from scratch," like graphics or animations, it will help you get ahead of the game to categorize them as small, medium, or large or some other indication of the amount of development involved. Create a separate column for each of these as well.

Now, revisit each screen or page in your storyboards. Number each asset with a unique identifying alphanumeric code, and note that code in the appropriate row in your asset list spreadsheet. In the final column, record the source for the asset along with any notes for the development team.

4. First things, first: schedule by task

There's an overwhelming natural tendency for new developers to start at the first page in a stack of storyboards and methodically work their way through to the end, completing one page at a time in sequence. Experienced developers know that not all pages are created equal, and failure to schedule extra time for challenging tasks is a sure way to run into trouble later.

Take your asset list and create a development plan. Count the total number of pages/screens in the program, and the number of each type of asset to be developed. Multiplying these by a development time estimate will give you an "off the cuff" development time for the course as a whole.

Finally, this is where your development experience really comes into play. Perform a high level analysis of the complexity of each of the development tasks you've identified, along with the hours that will be required to complete each task. Consider any dependencies — tasks that cannot be started until another task is completed.

Now you're ready to get the team to work. Schedule the most difficult interactions, simulations, or learning games first to ensure there is enough time for these complex tasks. Base page development can typically begin concurrently, as can asset development. Schedule photography and any audio or video talent or studio time required. Also schedule locations for any off-site shoots, and begin to collect any items you will need as "props."

Compare the hours and tasks required against the resources available to you, and formulate a plan for bringing in contract help if necessary to meet your deadlines.

Ready? Set? Go!

Replay: it's now April, and you have about 8 weeks left to complete 12 full weeks of development and testing. As soon as the approved storyboards are finally in your hot little hands, you schedule a Kickoff Walk-thru session with the course content development team. Meantime, you schedule your proofreader to take one last look at the storyboards, and ask one of your team members to help you begin to assemble your asset list. It's still too early to say for sure, but you think that if you can begin production on the largest animations within the next few days you and the team may just have a chance to meet the aggressive project deadline.

A few years back, new to interactive development, you would have simply divided the storyboards among the team and prepared to help them fight each fire and hope for the best. As you pick up the phone to request a few tentative dates for a photo shoot, you think back to those early years and congratulate yourself on how far you've come.

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STORYBOARD SOFTWARE

Many authoring tools do storyboards, but maybe yours doesn't. Popular standalones run from simple to sublime, with price tags to match.

Basic (and Cheap)

The most basic storyboards are ad hoc applications of MS Word or MS PowerPoint.

A Google search (try "storyboard template software word powerpoint") returns low-cost solutions for writers and instructional designers.

For example, a guide and template for instructional design is at http://www.matter.org.uk/storyboard/storyboard_guide.htm.

An interesting tool for storyboards on Palm OS handhelds is Teal Paint. At $18, it's a step up from cocktail napkins for extemporizing ideas. For more information, see http://www.tealpoint.com.

More Advanced

In the $100 to $500 range are film maker and script writer tools that may serve your purposes.

Some designers like Inspiration ($109 for single-unit business license, Mac or Windows) for its dynamic diagramming and outlining environments. See the description at http://www.strategictransitions.com/inspiration.htm.

Script Werx ($129, Mac or Windows) is a set of MS Word templates for scripts, storyboards, and interview questionnaires. The application is described at http://filmmakerstore.com/swstory.htm.

Top of the Line

The pinnacle in systematic instructional design software for Windows is Mentergy's Designer's Edge. The storyboard module does everything: storyboards, asset lists, links, and more. Price depends on licensing, but Designer's Edge Desktop lists for $3495. See the description at http://www.mentergy.com/products/authoring_design/designer/.

— Bill Brandon